



ELECTRONIC BUILDING ELEMENTS
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Z80A® Single Board Computer

STD BUS Series ISB-3104

FEATURES

- Full STD BUS Compatibility
- A Complete 8-Bit Microcomputer System on a Single STD BUS Card
- 4MHz Z80A® CPU
- 2K, 4K, 8K, 16K, 32K ROM, EPROM or EEPROM
- 64K or 256K Bytes of Dynamic RAM
- Software Controllable Memory Map with Dynamic Relocation
- Two RS-232-C Serial Data Channels
- 16 Parallel I/O Lines with Handshake
- Centronix Type Printer Interface
- On-Board DMA Controller
- 4 Counter/Timer Channels
- On-Board Floppy Disk Controller
- Supports Mode 2 Interrupts and Priority Chain Arbitration
- MEMEX and IOEXP Lines are Fully Implemented
- Power-on and Pushbutton Reset Circuitry
- Excellent Software Support

GENERAL DESCRIPTION

The ISI International ISB-3104 is a complete and powerful Z80A-based single board microcomputer for use with STD BUS systems. The on-board integration of several major microcomputer components provide the user the ability to design low-cost, high performance control, data acquisition or data processing systems.

The ISB-3104 memory consists of a single 28-pin socket that can provide up to 32K bytes of ROM, EPROM or EEPROM, and either 64K or 256K bytes (arranged in four 64K banks) of dynamic RAM. A PROM-based, software controllable memory map allows the user to selectively enable/disable 16K blocks of on-board RAM, 8K blocks of on-board ROM and off-board memory, and to dynamically relocate on-board blocks to any 16K boundary. Up to 32 configurations are possible. Additional configurations can be implemented by replacing the original PROM memory map with a user-programmed version. The on-board memory can be accessed by either the on-board or an off-board DMA controller. Off board memory expansion is hardware controlled via MEMEX. I/O expansion is accomplished via software control of IOEXP.

- Z80 is a registered trademark of Zilog, Inc.
- CP/M is a registered trademark of Digital Research Corporation

STD BUS Series
ISB-3104 Z80A Single Board Computer

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SPECIFICATIONS

Word Size:	8 bits
Clock Period:	4MHz
Memory Capacity:	2K to 32K bytes ROM, EPROM or EEPROM; 64 or 256K RAM
Memory Mapping:	Software selectable in 16K blocks (RAM) and 8K blocks (ROM) with dynamic relocation
Memory Speed:	350ns
Serial Interface:	Serial interface characteristics (5 to 8-bit characters; even, odd, or no parity bit generation and detection; asynchronous bit rates 30 to 56K baud; synchronous bit rates to 800K bits per second; HDLC and SDLC formats; two independent channels) are all software programmable. Both channels can have RS-232-C or TTL outputs.
Parallel Interface:	Two programmable I/O ports (16 lines) with handshake and interrupt capability
Printer Port:	Parallel Centronics Type Printer Interface
DMA Controller:	Byte-at-a-time modes; memory to memory, memory to I/O, I/O to I/O transfers; independent ready and hand-shake lines.
Counter/Timer:	Four 8-bit channels; count at 1MHz, 2MHz, or 4MHz clock rates; external inputs and outputs; use as interrupt controller or as baud rate generator for on-board I/O.
Floppy Disk Controller:	Handles combinations of up to four 8-inch or 5¼-inch single or double-density, single or double-sided drives.
Power Requirements:	+5Vdc at 1.82A +12Vdc at 50mA -12Vdc at 40mA
Physical Dimensions:	Height: 7.15 Inches (18.16 cm) Width: 4.48 Inches (11.38 cm) Thickness: 0.062 Inch (0.158 cm) Assembly Thickness: 0.438 Inch (1.111 cm)

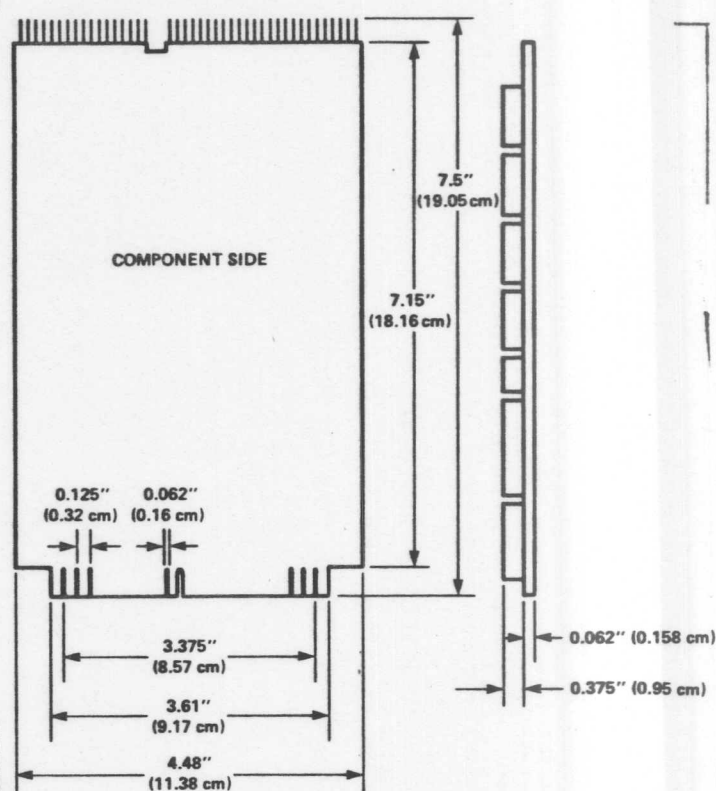


Figure 2. ISB-3104 Physical Card Dimensions

ENVIRONMENTAL CHARACTERISTICS

Operating Temperature:	0°C to 55°C
Storage Temperature:	-40°C to 80°C
Relative Humidity:	0% to 90% (without condensation)

ORDERING INFORMATION

ORDERING NUMBER	DESCRIPTION
ISB-3104-01	Single Board Computer with 64K DRAM
ISB-3104-02	Single Board Computer with 256K DRAM